EFFECTIVENESS OF LEARNING MATERIALS BASED STRATEGIC QSH TO IMPROVE STUDENT LEARNING OUTCOMES IN SUB MATERIAL INTERACTION IN ECOSYSTEMS

Diana Ekasari

Student of Science Education, Mathematics and Science Faculty, State University of Surabaya

e-mail: dianaekasari@mhs.unesa.ac.id

Dr. Mohammad Budiyanto, M.Pd.

Lecture of Science Education, Mathematics and Science Faculty, State University of Surabaya,

e-mail: mohammadbudiyanto@unesa.ac.id

Abstract

The aim of this research is to describe the effectiveness of learning based strategic Question Student Have (QSH) to improve student learning outcomes in sub material interaction in ecosystems. The research method uses Research and Development (R&D) which is only limited to stage 6 with quantitative descriptive analysis. Product testing and research design namely One Group Pre-test and Post-test Design. The results of student learning outcomes in knowledge aspect shows submission with Gain score 0.65.This skor shows medium category.

Keywords: Learning materials, Question Student Have, Student outcomes

INTRODUCTIONS

One of national destination of Indonesia is the formation of Pancasila man for all its citizens. Education also has objectives that have been aligned with these objectives to forming the Pancasila man. According UU 2003, education is conscious and planned to create a learning atmosphere and learning process with the aim that the students actively develop their potential. Education in Indonesia has always evolved from year to year including government policies that are proven to bring about changes in education in Indonesia. One of them is the change of curriculum that always follow the changes and demands of the times. The curriculum used in Indonesia is currently the 2013 curriculum that aims to encourage students to be better at observing, asking, reasoning, and communicating what has been gained during the study besides, Students are encouraged to find out, and to formulate problems (to do so) instead of just resolving the problem.

The essence of learning is to ask and answer questions. Questioning has an important role in learning and teaching activities. According to Eggen and Kauchak (2012) asking questions is the most widely implemented and effective tool for encouraging interaction, so that it is one of the indicators of active students.

In fact, the achievement of the curriculum in the school today is insufficient in accordance with expectations. SMP Negeri 1 Cerme is one of the national standard schools in Gresik Regency. This school is used as a research target based on the results of the National Exam (UN) on Science subject year 2017 decreased when compared with the previous year. The average value of UN IPA in 2016 is 65.12 while in 2017 it falls to 64.32 (Depdikbud, 2017).

Based on interviews with teachers and poll dissemination to students, students are still more likely to be passive when science studies take place. It is supported by a poll that states 53% of students tend to be passive when Science studies take place. When teachers provide opportunities for students to ask or respond to other students they are more often silent and not responding to teacher requests. Learners find it difficult to express their opinions, ideas, or ideas directly. Not all learners dare to reveal questions they have. This is supported by pre-research results made in SMP N 1 Cerme in class VII D has low activities.

Learning in the 2013 curriculum, is a direct learning that in his learning develops knowledge, thinking skills, and skills to use learners ' knowledge through direct interaction with the learning resources is designed in the syllabus and RPP (Permendikbud No. 103 year 2014). This shows that learning devices are a component that provides an important role in the implementation of learning that supports student learning outcomes. Many devices have been developed to support the 2013 curriculum implementation in various fields of study. However, according to the results of an interview of Science teachers in Science studies there is no learning tool

that supports the integration of the Question Student Have (QSH) strategy with the scientific approach applied.

Based on the problem above, it takes a learning strategy that can support the implementation of active learning. The strategy that can be used is the Question Student Have (QSH) where the strategy emphasizes the learners to be active by asking questions. To support the learning process with QSH strategy It takes a learning tool that can actively engage students. Learning devices are a set of tools and materials used to teach in the classroom. This set of learning tools can improve student learning outcomes.

METHOD

The type of research used is Research and Development development (R&D). Learning materials of this research consist of syllabus, lesson plan, teaching materials, student worksheets, and assessment sheet. The results of studying in the analysis of this study are the result of learning aspects of knowledge. This learning tool is addressed to 27 students of grade VII D SMP Negeri 1 Cerme. The instrument used is a matter of pretests and posttest students. Data collection techniques in the form of tests. As for the improvement of learning outcomes then the data analysis technique used is N-Gain analysis with the following equation:

$$< g >= \frac{< S_f > - < S_i >}{< S_{maks} > - < S_i >}$$

Then the N-Gain calculation results, the score obtained is converted by adjusting to the following criteria:

Table 1. The Range of Value for Improved Learning Outcomes

Limitation	Category
0,00<(<g>)≤0,30	Low
0,30<(<g>)≤0,70	Medium
0,70<(<g>)≤1,00	High

RESULT AND DISCUSSION

The research results are presented in the following table:

Table 2. Result of Student Learning Outcomes

No	*Pretest*	*Posttest*	*N-Gain*	Criteria
1	65	90	0,71	High
2	55	85	0,67	Medium
3	60	90	0,75	High
4	60	90	0,75	High
5	75	95	0,80	High
6	65	100	1,00	High
7	60	90	0,75	High
8	70	95	0,83	High
9	65	90	0,71	High
10	60	65	0,25	Low
11	60	75	0,38	Medium
12	60	90	0,75	High
13	55	90	0,78	High
14	75	90	0,60	Medium
15	45	90	0,82	High
16	60	80	0,50	Medium
17	45	85	0,73	High
18	80	100	1,00	High
19	65	70	0,14	Medium
20	75	90	0,60	Medium
21	65	95	0,86	High
22	70	90	0,67	Medium
23	80	85	0,25	Low
24	70	85	0,50	Medium
25	80	100	1,00	High
26	55	85	0,67	Medium
27	65	80	0,43	Medium
28	80	95	0,75	High
Average	**65**	**88,03**	**0,67**	**Medium**

According to table 2, it is known that each pretests and posttest result is given to the student obtaining varying values. From the results of pretests and posttest, it can be improved student learning outcomes. Overall the average result of pretests is 65 while the average for the overall posttest is 88.03. From pretests and posttest results can be known large n-gain increase. As for the average N-Gain obtained overall is 0.67 with medium category. The value of 0.65 is certainly greater than 0.40 (which corresponds to the provisions).

The N-Gain achievement of the moderate category shows that the learning devices that are being developed are effective for use. As according to Hake, it is said that increasing the outcome of learning skills and learning outcomes is well-thought if the normalized gain score is greater than 0.40. But the magnitude of each student's score is different. This is because the results of pretests and posttest students are also different.

Table 3. Percentage of *N-Gain* Criteria

Percentage (%)	Number of Student	*N-Gain* Criteria
57,1	16	High

Percentage (%)	Number of Student	*N-Gain* Criteria
32,2	9	Medium
10,7	3	Low

According to table 3, it can be noted that as many as 16 students achieved an increase with high criteria with a percentage of 57.1%, 9 students achieved an increase with moderate criteria with a percentage of 32.2%, and 3 students achieved an increase that is still in Low criteria with a percentage of 10.7%.

As for the low percentage of students who gained N-Gain with low categories due to several factors both factor Dar and the outside factor. Factors from the inside are possible because students are less attentive during learning. This is in accordance with the Slameto statement (2008), which is a big interest tends to result in high achievements, but less interest in learning will result in low performance as well. In addition, there are outside factors that influence the learning outcomes that are the school environment factors, especially for school facilities. This is also in accordance with the statement Slameto (2008) which is the condition of the school where the study also affects the success rate of learning.

Quality of learning, teaching methods, conformity of curriculum with children's abilities, school facilities, social relations between students and teachers are elements that need to be considered when wanting to build a good environment. In addition to the school environment, the surrounding environment will have an effect on students ' excitement in learning e.g. traffic noise, outside frenzied sound, air pollution, overheating climate will all be influential. In this study, the surrounding environmental factors are the most influential is the hustle and bustle of the VII D class that is close to the school cafeteria so that the voice of students in the cafeteria will be heard into the classroom.

In the learning process, the question has a very important role, because the nature of learning is to ask. It is in accordance with the Guinhun statement in Pure (2015) that all our knowledge is generated from the question. This is also in line with the declaration of Syamsudin (2018) that the implementation of the development of the tool of learning of the use of the application can improve the ability of the learning indicators of knowledge aspects supported by an increase in the average N-gain.

In addition to the aspects of encouragement, student learning outcomes are derived from the skill aspect. The results of learning for the skill aspect are derived from observations by observers when students work in the group. There are 24 students who got very good predicate and 4 students get a good predicate. Assessment of students ' skills assessed by observation sheets and rubrics. This assessment aims to assess the achievement of competency skills of students in conducting observations in accordance with KD 4.7. Students are said to be complete in a skill aspect when achieving a good predicate (B). The results of the Student assessment analysis can be noted that from the entire student there are 4 students who get the good predicate, while the other 24 students get very good predicate. Average student's overall value is 3.4 with excellent predicate. From the average obtained the 3.4 then concluded the results of students ' learning outcomes aspect "complete". This is in accordance with Permendikbud No. 104 of the year 2014, a survival study for the skill aspect set with a score of at least 3.00 or with a good predicate (B).

CONCLUSION

Conclusion

Based on data analysis and discussion can be concluded that there is an increase in student learning outcomes, especially learning aspects of knowledge. Results of N-gain analysis obtained the normalized gain score of 0.65 with moderate criteria. From the learning analysis results aspect skills acquired score 3.4. So the results of learning can be finished entirely.

Suggestions

Teachers need more preparation in QSH learning for example such as projectors and school environments that support in learning. So that student outcomes are increasing.

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